

ENGINEERING MANAGEMENT

August 11, 2006

Ms. Sheila Sullivan
U.S. EPA, Region V
Waste Management Division (HSRM-6J)
77 West Jackson Blvd.
Chicago, IL 60604



Re: Monitoring Report
Commercial Oil Services Site

Dear Ms. Sullivan:

Enclosed for your review is a Commercial Oil Services Site Monitoring Report for the inspection and monitoring activities conducted in June 2006. The monitoring was conducted in accordance with the Operation and Maintenance Plan dated April 2001 and the revised Quality Assurance Project Plan dated August 2003. The groundwater monitoring results are consistent with results obtained from past monitoring events. As you know, monitoring events are required semi-annually in 2006; therefore, the next monitoring event is scheduled for December 2006.

Should you have any questions, please do not hesitate to contact me.

Very truly yours,

ENGINEERING MANAGEMENT, INC.

A handwritten signature in black ink, reading "Daniel Forlastro".

Daniel Forlastro, P.E.

enclosure

cc: D. Haynam (SLK, w/ enclosure)
A. Van Norman (CRA, w/o enclosure)
COSS Technical Committee (w/ enclosure)

comail\epa\2006 corres\semi-annual monitoring report 08-11-06



**CONESTOGA-ROVERS
& ASSOCIATES**

651 Colby Drive, Waterloo, Ontario, Canada N2V 1C2
Telephone: 519-884-0510 Facsimile: 519-884-0525
www.CRAworld.com

August 9, 2006

Reference No. 005649-42

Mr. Dan Forlastro
Engineering Management, Inc.
1500 Ardmore Blvd, Suite 502
Pittsburgh, PA 15221

Dear Mr. Forlastro:

Re: Semi-Annual Monitoring Report
Commercial Oil Services Site
Oregon, Ohio

This letter summarizes the first semi-annual monitoring event of 2006 conducted at the Commercial Oil Services Site in Oregon, Ohio. Groundwater and leachate monitoring were reduced to a semi-annual basis in 2002 in accordance with the Final Operation and Maintenance (O&M) Plan dated March 2001. The first semi-annual monitoring event of 2006 was conducted on June 16, 2006.

As part of the semi-annual monitoring program, the following activities are performed:

- leachate sump elevation measurements;
- groundwater elevation measurements;
- groundwater sampling; and
- Site inspection.

Leachate Sump

The leachate level in the sump was measured and determined to be at 572.46 ft. AMSL. During the period December 28, 2005 to June 16, 2006 the leachate level rose in the sump at a rate of approximately 0.2 feet/month.

Groundwater Elevations

During the semi-annual monitoring event, a round of groundwater levels was taken from the four wells on Site. Groundwater elevations are summarized in Table 1 and on Figure 1.



**CONESTOGA-ROVERS
& ASSOCIATES**

August 9, 2006

2

Reference No. 005649-42

Groundwater Sampling

Groundwater samples were collected from the four monitoring well locations. Groundwater samples were collected from these monitoring wells using dedicated bladder pumps in accordance with the Sampling and Analysis Monitoring Plan (SAMP) dated March 2001 and the revised Quality Assurance Project Plan (QAPP) distributed to the EPA in August 2003. Samples were shipped in iced coolers to Severn Trent Laboratories (STL) for analysis of the parameters used as indicators of groundwater contamination. All samples were sent by commercial courier to the laboratory under standard chain-of-custody procedures.

Table 1 presents the analytical results of the monitoring well samples. Groundwater Contamination Indicator parameter results are generally consistent with historical Operation and Maintenance Monitoring results. A memorandum summarizing the Data Quality Assessment and Validation is attached as Attachment A.

Site Inspection

As part of the semi-annual sampling event, an inspection of the Site was conducted. The Site was found to be in generally good condition. The leachate pad was repaired in November 2004 to address erosion around the leachate sump documented in previous Semi-Annual monitoring events. A crack, originally caused by the erosion around the sump, is still visible through the middle of the wall surrounding the concrete leachate sump pad. The size of the crack appears to have increased in size. The crack will be inspected during the next semi-annual monitoring event to determine if additional repair activities are required.

If you have any questions, please do not hesitate to contact us.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

for Alan W. Van Norman

AVN/cb/19
Encl.

c.c.: Brandon Hurl

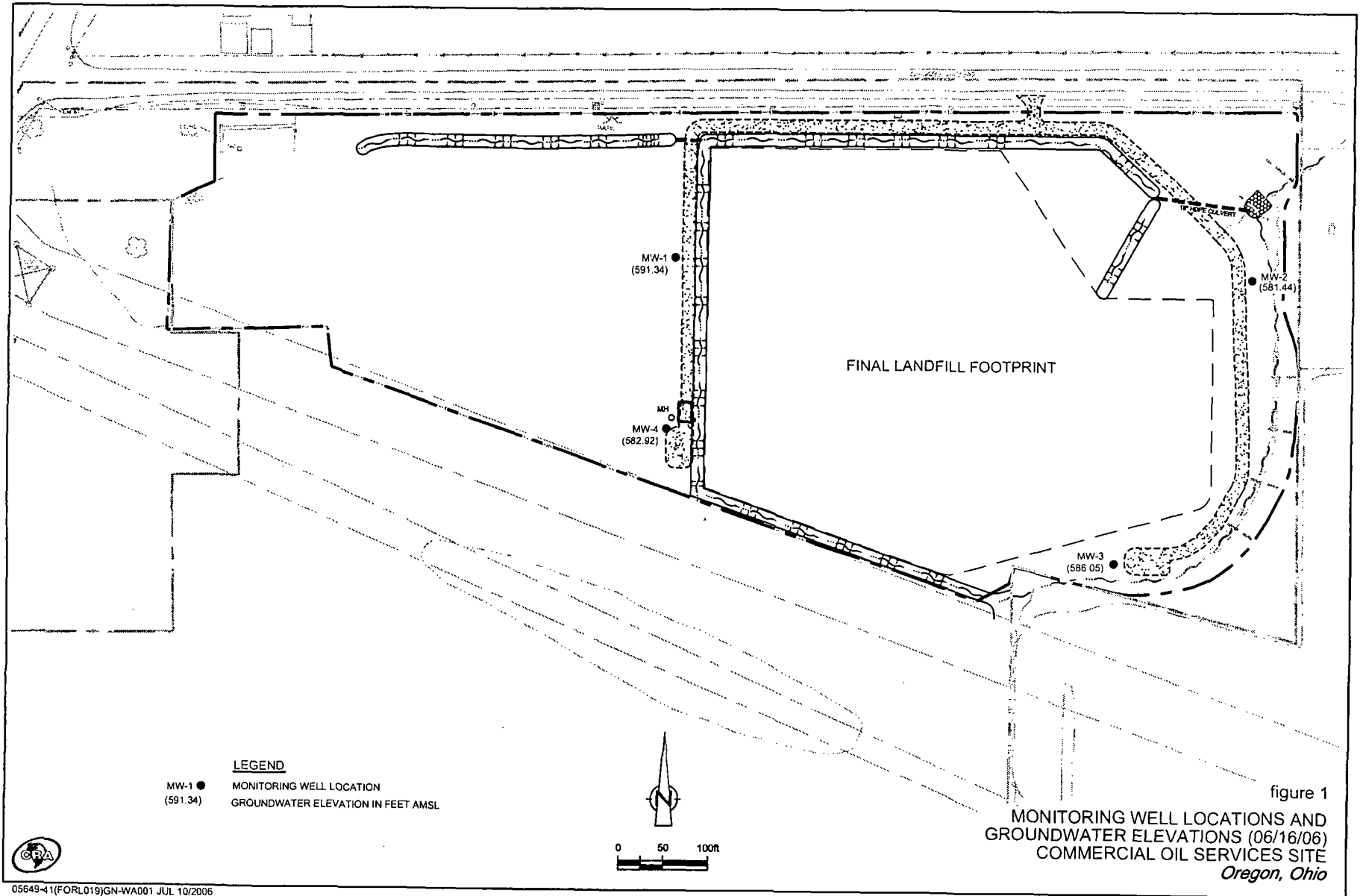


TABLE 1
OPERATION AND MAINTENANCE SAMPLING
SEMI-ANNUAL MONITORING, JUNE 2006
COMMERCIAL OIL SERVICES SITE
OREGON, OHIO

SAMPLING PARAMETER	Units	Detection Limits	Wells				
			MW-1	MW-2	MW-3	MW-4	MW-4 (Dup)
<u>Groundwater Level</u>	ft. AMSL	NA	591.34	581.44	586.05	582.92	NA
Groundwater Quality Indicators (Annual)							
chloride	mg/L	1.0	482	32.1	506	48.6	46.5
iron	mg/L	0.1	0.086 J	0.248	0.142	0.487	0.525
manganese	mg/L	0.015	0.0098 J	0.015	0.57	1.85	1.91
phenols	mg/L	0.04	4.6	ND	ND	ND	ND
sodium	mg/L	5	255	38.2	150	70	70.9
sulfate	mg/L	1	90.8	528	863	2160	2120
Groundwater Contamination Indicators (Semi-Annual)							
pH (field)		NA	11.51	6.54	7.18	6.59	NA
specific conductance (field)	ms/cm	NA	2.53	1.69	2.87	3.52	NA
total organic carbon	mg/L	1	140	8	7	5	4
total organic halogen	µg/L	30	41.2	ND	42.9	18.2 B	ND

Notes:

ft. AMSL - feet above mean sea level

NA - Not Applicable

NM - Not Monitored

ND - Not Detected

J - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B - Estimated result. Result is less than RL.



**CONESTOGA-ROVERS
& ASSOCIATES**

14496 Sheldon Road, Suite #200
Plymouth, Michigan 48170
Telephone: (734) 453-5123 Fax: (734) 453-5201
www.CRAworld.com

MEMORANDUM

TO: Alan Van Norman REF. NO.: 5649-38

FROM: Rawa Fleisher/tl/105/Det DATE: July 26, 2006

RE: Data Quality Assessment and Validation
Semi-Annual Groundwater Monitoring
Commercial Oil Site – Oregon, Ohio

The following details a quality assessment and validation of the analytical data resulting from the June 16, 2006, collection of four (4) samples and one (1) quality control sample from the Commercial Oil Site in Oregon, Ohio. The sample summary detailing sample identification, sample location, quality control sample, and analytical parameters is presented in Table 1. Sample analysis was completed at Severn Trent Laboratories, Inc. in North Canton, Ohio and Denver Colorado (STL) in accordance with the methodologies presented in Table 2. The quality control criteria used to assess the data were established by the methods and the quality assurance project plan (QAPP).¹

Sample Quantitation

The metals and general chemistry sample analysis resulted in a number of concentrations reported by the laboratory with a "B" flag. These concentrations are below the laboratory's reporting limit (RL) but above the laboratory's method detection limit (MDL); therefore, these concentrations should be qualified as estimated (J) values unless otherwise qualified in this memorandum. The "B" flags may be disregarded.

Holding Time Period and Sample Analysis

The holding time periods are presented in Table 3. The samples, as indicated by the sample collection, extraction and analysis dates on the chain-of-custody forms and analytical reports provided by STL, were prepared and analyzed within the required holding time periods.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by concurrent preparation and analysis of method blank samples.

Several laboratory method blanks were reported with parameters detected but the associated sample concentrations were either non-detect or five (5) times greater than the method blank result; therefore, no qualification was required. The laboratory identified these concentrations with a "J" flag for inorganic analyses, which may be disregarded. The remaining method blank samples were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

¹ Application of quality assurance criteria was consistent with and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Review", EPA-540/R-94/013, February 1994.

Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) analyses serve as a monitor of the overall performance in all steps of the sample analysis. The LCS percent recoveries were within the laboratory control limits, indicating that an acceptable level of overall performance was achieved.

Laboratory precision was verified by the relative percent difference (RPD) of the LCS/LCSD when a matrix spike/matrix spike duplicate was not analyzed. The RPDs were within the laboratory control limits, indicating that an acceptable level of overall laboratory precision was achieved.

Matrix Spike/Matrix Spike Duplicate Percent Recoveries

Matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and the relative percent difference (RPD) of the concentrations were monitored to determine the effects of sample matrix on the laboratory's digestion and measurement methods. The sample selected for MS/MSD analysis is identified in Table 1. The MS/MSD percent recoveries and associated RPDs were within the acceptance criteria.

Field Quality Assurance/Quality Control

The field quality assurance/quality control consisted of one (1) field duplicate sample set. Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample set. Table 4 summarizes the results of the detected analytes in the field duplicate sample set. The data indicate that an adequate level of precision was achieved for the sampling event.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used without qualification.

TABLE 1

SAMPLE SUMMARY
COMMERCIAL OIL SITE
OREGON, OHIO

<i>Sample Identification</i>	<i>Sample Location</i>	<i>Matrix</i>	<i>QC Sample</i>	<i>Parameters</i>
CRA SDG 33	STL SDG A6F170164			
GW-5649-061606-JY-062	MW-4	Water		Select Metals, General Chemistry
GW-5649-061606-JY-063	MW-4	Water	Duplicate (062)	Select Metals, General Chemistry
GW-5649-061606-JY-064	MW-1	Water		Select Metals, General Chemistry
GW-5649-061606-JY-065	MW-2	Water	MS/MSD	Select Metals, General Chemistry
GW-5649-061606-JY-066	MW-3	Water		Select Metals, General Chemistry

Select Metals - Iron, Manganese, Sodium

General Chemistry - Total Organic Carbon (TOC), Total Organic Halogens (TOX), Phenolics, Chloride, Sulfate

QC - Quality Control

MS/MSD - Matrix Spike /Matrix Spike Duplicate

TABLE 2
SUMMARY OF ANALYTICAL METHODS
COMMERCIAL OIL SITE
OREGON, OHIO

<i>Parameter</i>	<i>Method</i>
Select Metals	
Iron	SW-846 6010B ¹
Manganese	SW-846 6010B
Sodium	SW-846 6010B
General Chemistry	
Chloride	SW-846 9056A
Phenolics	SW-846 9065
Sulfate	SW-846 9056A
TOC	EPA-WW 415.1 ²
TOX	SW-846 9020B

¹ SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods",
SW-846, 3rd Edition, and Promulgated updates, November 1986

² EPA-WW - "Methods for Chemical Analysis of Water and Waste," EPA-600/4-79-020,
revised March 1983.

TABLE 3

HOLDING TIME PERIODS
COMMERCIAL OIL SITE
OREGON, OHIO

<i>Analysis</i>	<i>Matrix</i>	<i>Holding Time Period</i>
Select Metals	Water	- 180 days from sample collection to completion of analysis
TOC, TOX, Chloride, Sulfate, Phenolics	Water	- 28 days from sample collection to completion of analysis

TABLE 4

SUMMARY OF DETECTED ANALYTES IN FIELD DUPLICATE SAMPLE SET
COMMERCIAL OIL SITE
OREGON, OHIO

<i>Analysis</i>	<i>Parameters</i>	<i>Investigative Sample</i>	<i>Duplicate Sample</i>	<i>RPD</i> ¹
		GW-5649-061606-JY-062	GW-5649-061606-JY-063	
Select Metals (µg/L)				
	Iron	487	525	38
	Manganese	1850	1910	3.2
	Sodium	70000	70900	1.3
General Chemistry (mg/L)				
	Chloride	48.6	46.5	4.4
	Sulfate	2160	2120	1.9
	TOC	5	4	13
General Chemistry (µg/L)				
	TOX	18.3 J	ND (30)	NC

¹RPD - Relative Percent Difference

J - Estimated Quantity

NC - Not Calculable

ND () - Not detected at or below the value indicated in the parenthesis